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# Annual Meeting Abstracts

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## **The Watercolors of Charles Russell: An Examination of the Artist's Materials and Techniques on the Montana Frontier**

Jodie Utter

Analyses of Charles M. Russell (active c. 1880-1924) watercolor artists' materials and techniques were undertaken using magnification, polarizing light microscopy (PLM), X-Ray Fluorescence, (Tracer III XRF), Infrared Reflectography (IRR), and ultra violet (UV) light. Russell's pigments are identified, as well as shifts in his technique over the course of his career. Focus is given to the wide variety of high quality artists' materials available in America and specifically on the Montana frontier in the late 19<sup>th</sup> and early 20<sup>th</sup> centuries.

Over the course of his lifetime Russell is thought to have painted some 1,600 watercolors. This project provides a baseline of comparison for Russell's watercolor paintings, as well as traces the skills of the artist throughout his career.

## **The Resurrection of Nam June Paik's *Video Flag Z***

Siviu Boariu, Mark Gilberg, John Hirx, and Jeff Ono

In 1986 LACMA acquired Nam June Paik's *Video Flag Z*, the third and final work in an edition of video sculptures, each comprised of 84 television monitors. Nam June Paik (1932-2006) is widely considered the father of video art, was the first video artist to experiment with electronic media, and played an important role in introducing the use of video as a form of artistic expression. The arrangement of television sets mimics the format of the American flag, and through the use of use of fast paced edits the images flicker in a dazzling array across the zones of stars and stripes.

Once acquired *Video Flag Z* was operated almost continuously until the late 1980s when the original Quasar television sets began to incur technical problems with wiring, switches, and "image burn" into the phosphorescent picture tubes. In the early 1990s as more and more televisions began to require repairs, *Video Flag Z* was frequently shut down as local repair shops hunted for hard-to-find replacement

parts for the Quasar model, which was no longer manufactured. Finally in 2000 it was decided to take the artwork off public display as technical problems and lack of spare parts rendered the artwork inoperable.

In 2006 the decision was made to restore Paik's *Video Flag Z* for the opening of the Broad Contemporary Art Museum. With funding secured from the Samsung Foundation and the assistance of the Nam June Paik Studio in New York the process of restoring the artwork was put in motion. In 2011 the restoration was completed in time for the opening of *Human Nature: Contemporary Art from the Collection*. The results of this successful collaboration will be reviewed in an effort to illustrate some of the more problematic decisions and approaches that must be taken when undertaking the conservation of contemporary art and electronic art in particular.

## **Responding to Local Disasters: Fires in Bastrop**

Karen Pavelka, Rebecca Elder, and Virginia Luehrsen

On Sunday, September 4, a perfect storm of downed power lines, high winds, high temperatures, and parched land ignited wildfires in Bastrop, TX. The fire burned uncontrolled for over a week, destroying nearly 1600 homes and burning more than 34,000 acres.

Students and faculty of the School of Information, the University of Texas at Austin, organized a team to help residents recover anything found in the aftermath. It is still early in the recovery process, so the current focus is spreading the word that fire victims should not throw things away, and making contacts with Bastrop authorities to let them know the team is available. If needed, more workshops will be held as people are allowed back into their homes to assess the damage.

It is not known how much actual material there will be to salvage, however reports of melted fire safes and homes reduced completely to ashes make for a dim outlook. The workshops generated substantial attention from local and national media, giving us the opportunity to show what conservators can give to the

community in a disaster situation, raising the profile of the field.

While we would never wish for a disaster, this has given us the opportunity to connect with the community and to let the community understand the value of conservation.

## **Luminous: How Conservation Studies, Treatment, and Advocacy Are Integrated in an Exhibition at the Seattle Art Museum**

Nicholas Dorman

The presentation will describe how our efforts to prepare and document 100 works of fragile art from the Seattle Art Museum, for a tour of five museums in Japan, evolved into more thoroughgoing research and treatment and an unprecedented opportunity to showcase a variety of conservation issues and technical art history in our galleries and on the SAM website.

## **A Cold Storage Facility for Large Contemporary Color Photographs at the J. Paul Getty Museum**

Sarah Freeman and Marc Harnly

A successful acquisition and donation program of several years has significantly increased the holdings of oversized contemporary color photography in the collections of the J. Paul Getty Museum.

Long-term storage temperatures below ambient room conditions are known to increase the longevity of the image-forming dyes of color photographs, which fade even when stored in the dark. An eleven hundred square foot facility was constructed at the museum to store these objects at 40 degrees Fahrenheit. The project to design and construct this facility involved extensive research and consideration to yield optimum storage materials and methods, including individual artwork enclosures for a variety of formats; storage shelving and screens; and room construction such as the type of insulated wall panels and flooring.

Decisions required broad consultation with a variety of professionals: conservators, curators, art handlers, museum administrators, facilities staff, scientists,

architects, contractors, and construction personnel. Once completed, the large color prints were successfully installed in the new facility. Long-term plans for access, maintenance, and usage were also made.

### **Color: Review of the Main Color Producing Mechanisms and Illustration with Feather Colors**

Christel Pesme

Colors and contrasts discrimination allow human beings to apprehend their surrounding world, to appreciate works of art, or to read documents. Logically, visual appearance plays a key role in the field of conservation. Color, gloss, sheen, and opacity are the main visual attributes of a surface.

Conservators have found color sensitivity indispensable to in-paint color losses or to evaluate treatment success. Color changes are often used as an indicator of a degradation process: this constitutes for instance one of the fundamental assumptions on which lighting guidelines for exhibitions have been developed in preventive conservation. Color science tools and techniques have also been successfully applied in conservation to provide conservation scientists and conservators with useful quantitative information. Color monitoring is very often used to check the progress of a treatment, or control the impact of a chemical or an adverse agent on the cultural artifact.

However, some materials used in making cultural artifacts show a level of complexity that challenges the common practices used in the field. Feathers, for example, force us to refine approaches to assess light sensitivity and to reconsider risk management and exhibition lighting decisions. But first of all it forces us to clarify the mechanisms in play that result in a given surface appearance.

Surface appearance results from a combination of two color producing mechanisms. Each mechanism is characterized by a specific interaction between the incident light and the surface material: one is based on selective absorption of the incident light, the other on its selective scattering. Pigments are examples of the first type of color and structural color-

ation makes up the second type. It can be challenging to discriminate between the colors resulting from each mechanism, yet it is important when assigning risks for the item. For instance colors resulting from selective absorption of the incident light are considered prone to fading, while those resulting from its scattering may be at higher risk in regards to dust deposit.

The main way to study and quantify the physical interactions between surface and light is to measure it directly. But pigments and structural color in both reflected and transmitted mode requires specific instruments. However, observing surfaces under different lighting conditions can provide one with visual clues that can help identify the way color or certain appearances are produced. These clues are sometimes conclusive. Images of feathers will be used to illustrate the presentation: the color productive mechanisms in feather are so extreme that observing them helps to exemplify the relation between the different physical entities and their appearances. Also, when possible, useful tips helping to discriminate between colors based on absorption and colors based on scattering will be presented.

### **More Than Surface Deep: Architectural Investigation and Conservation of Failing Sandstone.**

Mark McMillan, Katharine Untch, David Wessel, and Rick Flaster

Calvary Presbyterian Church was constructed in 1902. This third building of the San Francisco congregation is composed with symmetrical facades and exhibits English Renaissance styles executed in sandstone. For architectural and social reasons, the church was individually listed on the National Register of Historic Places in 1978.

The building's facades exhibited failing paint and detachment of the underlying sandstone that posed an aesthetic as well as safety concerns. A team of conservators, historic preservation architects and masonry experts was assembled to verify the causes of deterioration and formulate a cost-effective preservation solution. Using non-destructive techniques, it was discovered that the problem was not inherent in the design or materials of the building,

but caused by previous coating treatments that had leached into the stone.

Based on the findings, research, and mockups, the team developed a strategy for stabilizing the sandstone and bringing the facade back to its original function and aesthetic glory. The non-historic paint coating was removed, thereby revealing the underlying, sound stone. Although pneumatic tools were employed, the process and craftsmanship was the same as when these elements were originally carved.

No further surface treatments such as paint or sealants were applied to the newly exposed stone. Based on the condition of other sandstone buildings of a similar age in San Francisco, this solution should provide a "100-year" solution for the facade, thereby reducing future maintenance costs. This project successfully uncovers the beauty and history of our past while being sensitive to the needs of our future.

### **What To Do When a Chemist Comes Knocking on the Door: Identification of Plastic Materials in Museum Collections through Collaboration with an Undergraduate Chemistry Program**

JoAnn Peters

As an organic chemistry professor working at Central Washington University, I participated in National Science Foundation-sponsored Chemistry in Art workshops, and spent a research leave in the conservation labs at the Royal British Columbia Museum. Through these experiences I became interested in the identification and conservation of plastic materials in museum collections. This led to collaborative projects with the Yakima Valley Museum and the Kittitas County History Museum.

During the past year I worked with museum staff to identify plastic materials, particularly cellulose nitrate and other malignant plastics, in the museum collections. Testing involved minimally destructive sampling procedures and analysis through chemical spot tests, as well as infrared spectroscopy (ATR-FTIR). Sampling was carried out at the museum, with samples brought back to the university laboratories for testing.

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The projects were carried out with the assistance of undergraduate students. Students were introduced to the handling of museum objects by faculty from the university's Museum Studies Program prior to visiting the museums. Students worked closely with me at the museums and in the laboratory, assisting with all aspects of the project. I found that the projects were wonderfully suited to training undergraduate science majors. Projects of this type may be of use to other museums and of interest to other college chemistry departments.

### **Alaska, an Unexplored Paper History: The Examination, Training, and Treatment of the Paper Collections of Twelve of Alaska's Historical Institutions**

Seth Irwin

Rarely in paper conservation are we lucky enough to act as archaeologist and be the ones to unearth paper treasure from the caverns of the past. Alaska, while being the second youngest state in the union, adopted to statehood in 1949, ironically happens to have some of the oldest paper artifacts in the union.

First visited by Russian fur traders at the beginning of the 18<sup>th</sup> century, the state houses many archive collections that play a significant roll in depicting Alaska's history. Many of these collections have largely been unexplored and unseen. This in turn has created a state of concern relating to the stability of the overall historical paper collection of the state.

Conservation in Alaska presents difficulties unlike any other state in the union. The remote nature of many of the institutions that house paper collections are only accessible by air and water. In addition, the institutions are generally volunteer run and have little training in working with paper artifacts. At present there are no paper conservators in Alaska and transportation of damaged or deteriorated artifacts to the 'lower 48' for treatment is simply not an option.

Throughout 2010 and 2011, organized through the Alaska State Museum, twelve Alaskan institutions were visited for one month each to handle the conservation concerns for their paper collections. These projects, funded primarily through generous grants from the Alaskan Rasmuson

Foundation and several other institutions, had three primary objectives; assessment of the collections, training in some basic conservation techniques, and treatment of the institution's high priority paper artifacts. It is the intent of this paper to explain how this project functioned as well as to discuss the methods of conducting various paper conservation activities in the most remote of conditions.

### **Developing an Architectural Conservation Plan for the University of Texas at Austin**

Frances Gale and Michael Holleran

The University of Texas at Austin campus contains one of the most elegant and beautifully designed collections of early twentieth century academic buildings in the United States. Several historic buildings on the original "Forty Acres" campus were designed by prominent American architects. Cass Gilbert designed Battle Hall, the only building on the Forty Acres listed on the National Register of Historic Places, and Paul Cret designed the iconic Main Building and Tower and a number of other buildings. Both Gilbert and Cret developed master plans for the University, and the Forty Acres still reflects their influence.

An award from the Getty Foundation's Campus Heritage Grants program provided the opportunity for in-depth study of the Forty Acres campus. The project included a cultural resource survey to determine eligibility for the National Register of Historic Places, a landscape inventory and management plan for the historic cultural landscapes, and a conditions investigation of historic buildings. Our campus partner was the Office of Facilities Management, and consulting services were provided by award-winning preservation architects Volz & Associates, Inc. This presentation focuses on the historic building investigation and the development of an architectural conservation plan for the Forty Acres.

UT Preservation students participated in the project through two materials conservation courses. In a field methods course, students documented existing conditions on building exteriors and investigated sources of deterioration. They developed an illustrated glossary of conditions, and

identified those that affect many of the buildings, including biological soiling on masonry materials and corrosion on metal windows and spandrel panels. Based on this information, we selected representative buildings for further study.

In a lab methods course, students examined samples of materials from these buildings; their research included investigating deterioration and evaluating appropriate conservation treatments. Students identified organisms present in biological soiling and their adverse effects on limestone using DNA analysis and SEM imaging. During our study of historic windows, students examined paint and metal samples in the laboratory and evaluated state-of-the-art treatments.

The results of our research were used to develop specifications for restoration and guidelines for future maintenance of historic buildings within the Forty Acres. Promoting stewardship of UT's historic buildings was an important goal of our project, and the partnership between the Historic Preservation Program and the UT Office of Facilities Management was crucial to the success of the grant project, and to long-term sustainability of the Forty Acres.

### **Three Drawings in Search of an Author: Writing a Technical Essay for an Exhibition Catalog**

Kenneth Grant

In 2006, the author was given the opportunity to contribute a technical essay for a catalog that would accompany the traveling exhibition entitled *Storied Past: Four Centuries of French Drawings from the Blanton Museum of Art* organized by the Blanton Museum of Art at the University of Texas at Austin. Fifty-four drawings were included in the show. The drawings dated from the 16th century to the early 20th century and were executed in a variety of media on various types of papers.

This paper outlines the author's thoughts and experiences examining the works in the exhibition and includes a brief survey of technical essays and their formats from recent exhibition catalogs. The author's eventual approach was to structure the essay in the form of three "case studies"

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that illustrate certain concepts common in conservation studies.

The first case addressed the examination under visible and infrared light of a drawing assembled from parts and mounted to a secondary support, obscuring previous designs in the process. The second, was a discussion of a drawing on a colored paper support that had faded and so changed the tonal contrast of the media relative to the colored paper. Finally, the third case study involved the investigation of a drawing on Gillot paper, an unusual (and now extinct) drawing support manufactured during the 19th and early 20th century to aid in the production of images for mass-market illustrated magazines.

The inclusion of an essay by a conservator in exhibition catalogs, once a fairly rare occurrence, is becoming more common. The point of departure for the discussion is, as expected, not usually thematic, iconologic, or iconographic; but focuses on the physical nature of the art object, its materials, construction, and subsequent aging characteristics. The paper also touches briefly on the author's experiences preparing information for museum docent training and the ways in which a conservator's expertise can complement those of the curator in order to provide a more complete understanding of a work of art.

### **A Longer Exposure: An Extended Learning Approach to Photograph Conservation Training in Central, Southern, and Eastern Europe**

Sean Charette

This paper describes a three year regional course in central, southern, and eastern Europe entitled Fundamentals of the Conservation of Photographs that the Getty Conservation Institute (GCI) undertook from 2008 to 2010 with the aim of advancing the field of photograph conservation in the region. The course was carried out in partnership with the Academy of Fine Art and Design (AFAD), Bratislava and the Slovak National Library (SNL) and counted eighteen conservation professionals from ten countries in the region as participants.

Of particular note is an approach that extends the learning experience for par-

ticipants in a number of ways, beginning with a course design that utilizes both classroom teaching and distance learning activities to sustain communication and learning over several years. The benefits of this approach to the course objectives of teaching relevant knowledge and skills, building capacity, and encouraging the growth of a strong regional network of professionals is explored, along with the challenges in implementing an ongoing effort such as this. The use of this approach in other contexts is also explored.

### **A Comparison of the Use of Sodium Metabisulfite and Sodium Dithionite for Removing Rust Stains from Paper**

Seth Irwin

Rust stains in paper pose an interesting problem for treatment in paper conservation. The presence of such stains might vary from covering the majority of a paper artifact to as small as a residual stain left by a rusted paper clip or staple. Rust,  $\text{Fe}_2\text{O}_3 \cdot \text{H}_2\text{O}$  (or  $\text{FeO} \cdot \text{OH}$ ) is difficult to remove from the fibers of paper primarily due to its insolubility with water.

This problem is traditionally overcome in a series of wet treatments by reducing the insoluble Iron (III) compound to a soluble Iron (II) compound, adding a chelating agent such as EDTA, and repeating the process until the staining has been reduced or eliminated. At present, the most widely used reduction agent is sodium dithionite ( $\text{Na}_2\text{S}_2\text{O}_4$ ) also referred to as sodium hydrosulfite.

Sodium dithionate, while proven to be effective for this process, can often present logistical difficulties for those requiring its use. According to current MSDS standards, sodium dithionite is labeled a hazardous substance; it is extremely flammable, and prone to spontaneous combustion. Therefore, its use often requires treatment to be conducted in a fume hood. In addition, the chemical is also considered a hazardous substance by shipping carriers, thus requiring it to be ordered via hazardous materials freight adding additional expense to its acquisition.

However, the reducing agent sodium metabisulfite ( $\text{Na}_2\text{S}_2\text{O}_5$ ), having one more oxygen than sodium dithionate, is not considered a hazardous substance according

to current MSDS. Furthermore, it is not flammable, does not require hazardous material freight, and was also found to be far less expensive than sodium dithionite. Preliminary testing on rust stains in paper, in combination with EDTA, revealed significant success in its ability to effectively reduce iron corrosion. The intent of this project will be to conduct a side by side comparison of both reducing agents in their ability to reduce and eliminate rust stains from paper.

### **The Multipurpose Mount: An Adjustable Support for Photography and Radiography of Fragile Dineth Pottery**

Jamie Hascall

In the Spring of 2011, a rare collection of ancient Dineth pottery was brought to the Conservation Department of the New Mexico Department of Cultural Affairs by the U.S. Bureau of Land Management for assistance in preservation and analysis. For the documentation of the 53 pieces, photography and x-ray analysis were requested to study their construction and repairs. The challenge presented to the Preparation Department was to provide a mount that would safely stabilize and support the pointed-bottomed vessels while being unobtrusive during photography and radiography. In addition, the mount needed to be adjustable to accommodate the wide range of sizes and shapes in the collection.

To meet the core criteria, the mount was constructed of clear rigid acrylic tubing and sheet with nylon fasteners used to join the components. The pot was supported by a structure composed of a vertical telescopic column, a horizontal over arm, and an adjustable rod and Volara pad that descend into the mouth of the vessel to stabilize it from the inside. Points of contact were made easily adjustable and padded to preserve the surfaces. When used with a lazy-susan table, the mount allowed safe examination of the entire object with minimal visual intrusion.

The mount proved to be a highly usable design, adaptable to a variety of uses. It is an excellent example of a mount whose purpose is neither display or storage, and shows how one design can satisfy a wide range of needs, while not compromising the preservation of the object under study.

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### Research on Low-Oxygen Environments Applied to Autochrome Plates at the Metropolitan Museum of Art

Luisa Casella, Nora Kennedy, Katherine Sanderson, and Masahiko Tsukada

Research carried out at the Metropolitan Museum of Art established the benefits of low-oxygen conditions for the display of autochromes to minimize light fading, when compared to exposure under normal ambient oxygen levels. This was achieved by carrying out accelerated light-exposure tests on experimentally-produced autochrome color screens as well as historical samples, using a specifically designed testing protocol. The research project also investigated and tested a sealed enclosure that would allow for anoxic display of autochromes for limited time periods.

### What I Learned from CAPS 2 and How I Applied it to the MCP

Chris Stavroudis

CAPS2 (Cleaning Acrylic Paint Surfaces 2) was held at MoMA in May 2011. The workshop continued the GCI's Education Department's interest in assembling a workshop on the cleaning of acrylics. CAPS2 was a still a prototype workshop intended to discuss the treatment aspects of the earlier, more theoretical discussions from CAPS-RIP (Cleaning Acrylic Paint Surfaces - Research into Practice).

A number of potentially practical cleaning systems were taken from the workshop and are being incorporated into the Modular Cleaning Program. The theory behind the cleaning systems and their implementation in the MCP will be discussed.

### Have (XRF) Gun, Will Travel – to Museums and Historical Sites! Interdisciplinary Studies at the San Antonio Museum of Art and the Alamo

Michelle M. Bushey, Madeline J. Corona, Nicolle Hirschfeld, Jessica Powers, Pamela Jary Rosser, Benjamin E. Surpless, and Kate Ritson

The departments of Art and Art History, Biology, Chemistry, Classical Studies, and Geosciences at Trinity University have begun to integrate the use of a portable XRF device (pXRF) into curriculum

and research. Not only have these new tools helped us to infuse applications that immediately capture student interest in traditional science courses, but they have allowed us to extend the reach of analytical chemistry across campus and to forge new relationships with atypical disciplines both on an off campus.

In this study, a portable XRF instrument was used to perform in-situ analysis of Roman statuary from the San Antonio Museum of Art and wall decorations at the Alamo shrine in San Antonio TX. The pXRF allowed for the discovery of traces of gold on a marble statue called *Portrait of Antinous*. The gold is confined to the wreath surrounding the figure's head, and is invisible to the naked eye.

The pXRF was also used to characterize and identify pigments in frescoes found at the Alamo. The presence of mercury in red colored samples identified this pigment as vermilion, while the iron levels in yellow pigments allowed for the identification of iron ochres. Green and blue pigments were also found and are currently undergoing additional analysis in order to determine their composition.

Results of the pXRF analyses provided new insights into the pigments and other materials used in the production of these historical artifacts, and proved to be a fast and effective method of qualitative analysis. This work has been funded and supported by NSF, the Earl C. Sam's Foundation, Trinity University, the San Antonio Museum of Art, and the Daughters of the Republic of Texas, custodian of the Alamo.

### To Hell and Back: Fire Recovery Project at Museum Biblical Arts, Dallas

Maria Sheets

In 2005 the Museum of Biblical Art experienced a devastating six alarm fire. This presentation will cover the process of recovery including triage phase challenges, temporary storage and transportation, public relations, environmental storage and working issues with a temporary lab, treatment, construction phase, safety issues, the opening of the new museum with an on-view conservation lab space/classroom, and additional challenges in the new facility.

### Forensic Connoisseurship: Discoveries Made in the Conservation of *New England Village, 1912-1914* by Maurice Prendergast

Maite Martinez Leal

*New England Village* (1912-1914), by Maurice Prendergast, is one of the paintings in the Wintermann Collection of American Art given to the Museum of Fine Arts Houston in 1985. For years the MFAH paintings conservation team wondered whether *New England Village* would benefit from treatment. Consequently with the 2010 exhibition, *Prendergast in Italy*, we had an opportunity to explore treatment options.

The reason for treatment was that despite the lively impasto and colors of the paint, the surface was muted and the colors dulled, mostly from what appeared to be the wax lining adhesive that had seeped through cracks in the paint layer. This presentation will discuss how, as treatment advanced, we eventually decided to reverse the wax lining with the objective to reestablish the original relationship between canvas and paint. This presentation will describe the treatment, the various techniques used to extract the wax, and the unexpected discovery of the original, top fold-over edge of the painting.

Uncovering the top fold over edge was very fortunate since this information was previously hidden by the lining and led to questions about the presentation dimension of the painting. In the end we decided to stretch the painting as before, but to alter the frame. Returning the dimensions to the artist's intended composition creates a very different effect on the viewer, changing the sense of movement, space, and depth in the painting.

Over the years, on a case by case basis, we have reversed several wax linings at the MFAH, usually due to delamination problems or to correct a badly repaired tear. In each of these reversal treatments, to a significant degree, the relationship between canvas and paint was retrieved. The Prendergast treatment was, however, the first case to reverse a wax lining solely for aesthetic reasons. Reversal of wax linings merits more discussion for it can be an important tool to restore the essential, visual quality of paint on canvas.

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### **The Not-So-Still Life of a 17th-Century Dutch Painting.**

Susanne Friend

A 17<sup>th</sup>-century Dutch still life by Joseph DeBray had been brutally kicked by the enraged son of the owner. Apart from this, the painting was in excellent condition. It is quite large and has two linings as well as a strip lining. As might be expected, it has been restored many times in its long life, but the latest intervention, beautifully and sensitively done, was altered by the crime of passion.

The force of the blow tore original canvas as well as the two linings resulting in seven major tears and several smaller tears in an area approximately 7" x 7". Reversing both linings in order to access the tears seemed unnecessarily aggressive; relining would have also required varnish and inpainting removal as heat, moisture, and pressure treatments would likely damage the otherwise pristine natural resin surface.

This paper addresses the dilemma conservators face when deciding whether to perform local, less invasive treatments with an uncertain outcome and possibly less visually satisfying results. The decision must be balanced against achieving potentially superior results with a complete reversal of older interventions, while incurring greater expense to the client and further assaults to the painting.

### **No, I'm Not Making Cocaine...The Challenges of Archaeological Conservation in Northern Highland Ecuador**

Vanessa Muros

Archaeological conservators face many challenges when working in the field, one of them being lack of resources or availability of conservation supplies in foreign countries. In Ecuador, conservation in the field is made even more difficult due to the restriction placed on solvents, in part due to their use in the drug trade. This paper will focus on the conservation activities undertaken on the Pambamarca Archaeological Project in northern highland Ecuador. The issue of how the conservation lab meets the challenges of trying to conserve archaeological materials without easy access to commonly used-conservation ma-

terials, such as solvents will be discussed. Alternatives investigated and tested in order to get around the lack of access to solvents and the difficulty of using commonly used resins will also be described.

### **Concept to Fabrication: The DeNiro Collection *Men of Honor* Deep Dive Suit Stabilization Device**

Wyndell Faulk

There are many factors to be considered when housing very large collection objects, especially a deep sea diving suit. This unique collection material is from the movie production *Men of Honor*, part of the Robert DeNiro collection at the Harry Ransom Center in Austin, Texas. As a preparator, concept designer, and fabrication specialist it's my job to create the device that will help increase the longevity and preserve the construction of this suit.

The deep dive suit is too large and too heavy for housing in conventional preservation boxes and flat storage cannot properly support the suit's own material from crushing itself. The amount of storage space must be considered along with the construction of the support device, so the suit can be easily transported and exhibited. The type of materials used to construct the device must be archival and light weight, such as acrylic sheet and polyethylene foam, which offer their own interesting properties to a project such as this.

While brainstorming with the preservation staff, my concept for this support began to materialize. The time has arrived to measure, draw plans, mock-up, and fabricate the solution into the high tech mechanism, "Deep Dive Suit Stabilization Device." This talk will describe the design of the housing, the materials, and the construction techniques used to fabricate this unique support mechanism.

### **Juggling "Material Time Bombs" – Dealing with Ephemeral Mixed Media Items from the Special Collections at the Getty Research Institute.**

Albrecht Gumlich

Contemporary art collections throughout the country (and the world) are facing

challenging conservation problems: Some components of mixed media works degrade faster than others. Plastic elements, liquids, batteries, foodstuff, ... might ooze, leak, or crumble at an alarming pace, while their respective containers or adjacent components may seem stable. It is necessary to identify and tag collection items containing fugitive elements early on, best when entering into the collection. A viable system of periodic checks should enable a conservator to accompany and respond to the process of unstoppable decay – reducing risks for the respective ensemble.

The presentation describes the on-going quest of the Getty Research Institute to deal with a great variety of hardly permanent collection items. It aims to alert other institutions, which may be facing similar problems of having to deal with "material time bombs" in their collections .

### **The Unintended Effects of Some Book Treatments on Original or Early Binding Structures**

Olivia Primanis

The treatment of bound materials in special collections has become more conservative over the past half century. Today, book conservators choose treatments that safeguard physical information that is intrinsic to original bindings. Treatments focus on mending and stabilizing book structures, which lessens the need for invasive treatments such as rebinding text blocks and rebacking covers.

But, in treating rather than replacing an original binding, the book conservator is often challenged by the deteriorated condition, which can range from slight to considerable, of these older structures and materials. At the Ransom Center, we have found that the repair of one binding component can stress and, in some cases, break other deteriorated binding structures. This talk will discuss problems that were caused by typical repairs, such as a new break in the sewing structure; or, stiffness, which changes how a book opens and how pages turn. Some of the techniques developed in the HRC book lab that can be used to minimize stress on older components will be described.